

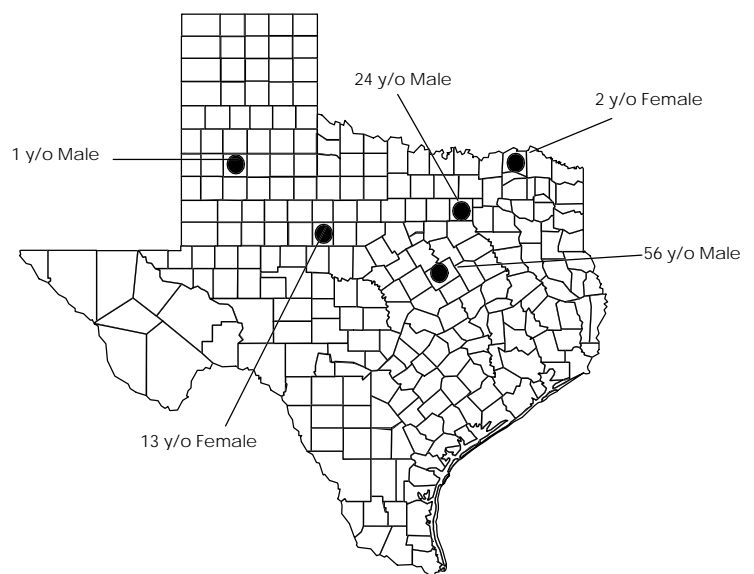
## Escherichia coli O157:H7 Infections in Texas, 1996

The spectrum of illness with *Escherichia coli* O157:H7 infections ranges from asymptomatic infection to nonbloody diarrhea, bloody diarrhea, hemolytic uremic syndrome (HUS), thrombocytopenic purpura, and death. *E. coli* infection typically begins with severe abdominal cramps and nonbloody diarrhea, which may become grossly bloody by the second or third day of illness. About half of all patients experience nausea and vomiting. Fever is usually absent or low grade. Symptoms of *E. coli* O157:H7 infection usually subside within 7 days, without sequelae. However, HUS develops in about 6% of patients. The mortality rate from *E. coli* O157:H7 infections is 3 to 5%.

In Texas there were 53 cases of culture-confirmed *E. coli* O157:H7 infections reported in 1996. As with the other diarrheal diseases, *E. coli* O157:H7 appears to infect younger persons at a much higher rate than it does older persons. The age group under 5 years of age accounted for 43% of all cases reported, and nearly 10% of the cases were younger than 1 year of age. Cases in Whites (78%) were reported more often than were cases in either Hispanics (18%) or Blacks (4%). HUS developed in 2 patients, both of whom recovered. There were no reported deaths associated with *E. coli* O157:H7 infections in 1996.

Although *E. coli* O157:H7 infections are usually associated with consumption of undercooked ground beef, only 3 of the 53 cases in 1996 were linked to ground beef. In March 1996 a family purchased a 5-pound package of ground beef from a local retail grocery. This package was divided into 3 smaller lots, formed into patties, and frozen. A few weeks later, 1 of these packages was defrosted, prepared, and eaten by the family. The family took a second package with them on a camping trip the following weekend. During the camping trip, 1 of their 3 children had onset of a diarrheal illness (3 days after consuming a hamburger from the first lot).

**Figure 1. County of Residence for 5 Patients with Genetically Linked *E. coli* O157:H7 Infections**



The second package of ground beef was cooked and served while the family was camping, and a second child had onset of a diarrheal illness 4 days later. Both of these cases were culture-confirmed *E. coli* O157:H7

*Continued* ☞

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infections. A third child became ill about 7 days after the onset of the second child. This third case was thought to be transmitted from person-to-person, rather than from consumption of the contaminated food item.

During the investigation of this cluster of illness, the third package of hamburger was submitted to the TDH laboratory for testing and *E. coli* O157:H7 was isolated. When these isolates were compared with the isolates from the stool samples (using pulsed-field gel electrophoresis) they were genetically indistinguishable. This was the first time that TDH was able to directly link an infected person with a food item contaminated with *E. coli* O157:H7. However, since the ground beef sample had been commingled with other food products (onions and spices had been added to it), and had been handled in the process of forming the product into patties, a direct link to the original ground beef lot could not be made. Also, the family could not recall from which of 3 grocery retailers they may have purchased the ground beef. Because of these facts, further trace-back of the product was thought not to be of value. No additional cases of infection from that city were reported during the period between purchase of the ground beef and onset of the third case.

In October 1996, the Texas Department of Health was notified that a nationally distributed apple juice product had been

implicated in several *E. coli* O157:H7 infections in the northwestern US. The product was distributed in Texas and the Infectious Disease Epidemiology and Surveillance Division (IDEAS) was asked to ascertain whether any Texas cases could be associated with consumption of the product. All individuals with onset dates within the 2 weeks following the distribution date of the affected lots and who lived in areas in which the product was sold, were contacted. None of the patients had a history of drinking the product.

As an adjunct to the study, all apple juice *E. coli* O157:H7 isolates from the Texas Department of Health Laboratory were forwarded to the Centers for Disease Control and Prevention for typing. While none of the isolates matched those associated with consumption of the implicated apple juice, 5 appeared to be linked with one another. The ages of the 5 patients ranged from 1 to 56 years, and their onsets of illness ranged from August 23 to November 11, 1996. Although these 5 patients had genetically identical strains of bacteria, they lived in widely separated locations, had no travel history outside their respective counties, and had no other commonalities which could be identified (Figure 1).



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## School Health on the Web

School staff, parents, health professionals, and community members are invited to visit the Texas Department of Health School Health Program at its new Internet site on the World Wide Web (<http://www.tdh.state.tx.us/school/schhea~1.htm>). Besides descriptions of the various programs they are responsible for, this site provides links to a wealth of information on comprehensive school health, including school health services, health education, and health promotion. It also provides links to several other agencies and associations involved with school health, such as the Texas Education Agency, the National Association of School Nurses, and the American Cancer Society.

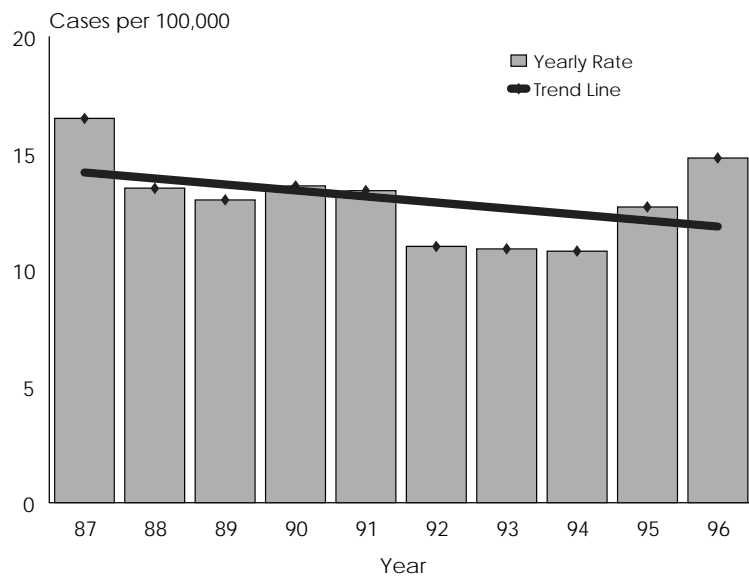
## Salmonellosis in Texas, 1996

There were 2,799 cases of salmonellosis reported statewide in 1996, the most cases reported statewide since 1987, and the third highest number of cases in one year since it became reportable in 1951. The 1996 incidence rate was 14.8 cases per 100,000 population, a 16.5% increase over 1995, the second increase in 2 years after 10 years of decline (Figure 1), and the highest incidence rate of salmonellosis since 1987.

The incidence of salmonellosis was higher among Hispanics (17.1/100,000) than among whites (7.9/100,000) or blacks (7.0/100,000). Figure 2 illustrates the geographic distribution of salmonellosis by public health region. The Regional Statistical Summaries give the number of cases and incidence rates for each county.

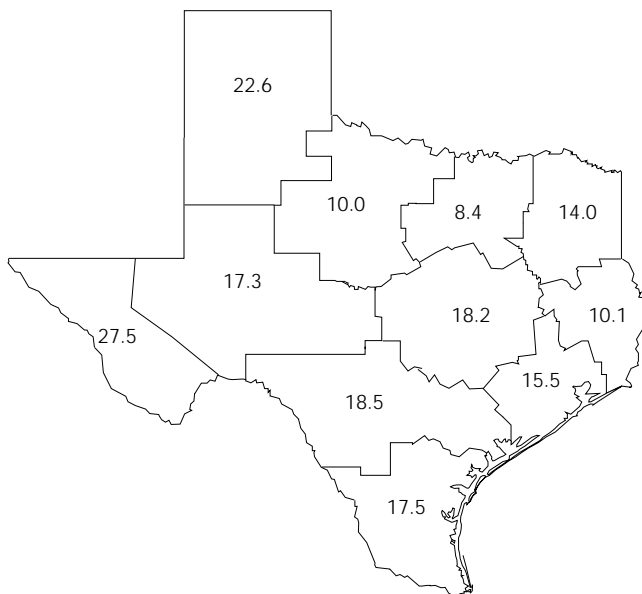
Although the mean age was 20.7 years, the median age was 8.0 years, and children under 5 accounted for nearly 40% of all reported cases. The incidence rate

**Figure 1. Salmonellosis Rates in Texas, 1987-1996**



for this age group (69.2 cases per 100,000 population) was the highest of any age group. As with the population as a whole, the incidence rate of Hispanics in this age group (179.0/100,000) far exceeded that of whites (47.1/100,000) or blacks (29.7/100,000).

**Figure 2. Salmonellosis Cases per 100,000 by Public Health Region**



The species of the infecting organism was identified and reported for 1,621 (57.9%) of the cases. *Salmonella typhimurium* was the most often identified species (22.5% of all isolates identified). *S. typhimurium*, *S. newport* (12.5%), *S. enteritidis* (6.4%), *S. montevideo* (4.3%), and *S. oranienburg* (4.0%) comprise the 5 most commonly identified species.

There was only 1 reported salmonellosis outbreak. In this outbreak, 50 of 65 persons who attended a church supper experienced symptoms. Although the species was not identified, 1 isolate was identified as belonging to Group D.

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## The Poison Experts

The Texas Poison Center Network (TPCN) was established in 1993 to help ensure the highest quality and most effective use of health care resources, especially emergency department and ambulance services. The following poison centers are staffed with physicians, pharmacists, nurses, and health educators who provide comprehensive toxicology information, treatment assistance, and prevention education to health professionals and the public. The TPCN hotline, (800) 764-7661 (POISON1), is open 24 hours every day.

### North Texas Poison Center

Parkland Health & Hospital System  
5201 Harry Hines Blvd., Dallas, TX 75235  
(214) 589-0911, FAX (214) 590-5008  
E-mail: [mfwalk@parknet.pmh.org](mailto:mfwalk@parknet.pmh.org)

### West Texas Regional Poison Center

Thomason Hospital  
4815 Alameda Ave., El Paso, TX 79905  
(915) 534-3800, FAX (915) 534-3809  
E-mail: [wtpoison@flash.net](mailto:wtpoison@flash.net)

### South Texas Poison Center

University of Texas Health Science Center  
at San Antonio  
Rm 146 Forensic Science, 7703 Floyd Curl Dr.  
San Antonio, TX 78284-7849  
(210) 567-5762, FAX (210) 567-5718

### Panhandle Poison Center

Northwest Texas Healthcare System  
1501 S. Coulter, Amarillo, TX 79106  
(806) 354-1630/354-1631, FAX (915) 534-3809  
E-mail: [debbieb@nwths.com](mailto:debbieb@nwths.com) or  
[paull@nwths.com](mailto:paull@nwths.com)

### Central Texas Poison Center

Scott & White Memorial Hospital and Clinic  
2401 South 31<sup>st</sup> St., Temple, TX 76508  
(254) 724-7401/724-7403, FAX (254) 724-7408  
Web Site: <http://www.sw.org/poison>

### Southeast Texas Poison Center

University of Texas Medical Branch at Galveston  
301 University Blvd., Galveston, TX 77555-1175  
(409) 766-4403, FAX (409) 772-3917  
Web Site: <http://www.utmb.edu/setpc>

***National Poison Prevention Week is March 15-21***